

Multiplying Three Mon/Polynomials (D)

Simplify each expression.

1. $(-6p^3 + 9p^2 + 4p)(6p^4 - 3p^3)(9p^3 - 8p^2 - 8p)$

2. $-9y(-2y^3 - 9y^2 - 2y)(6y^4 - 5y^3)$

3. $k^3(8k^5 - 5k^4)(9k^3 + 6k^2 - 6k)$

4. $-2d^2(-9d^4 - 6d^3)(4d^2 + d + 4)$

5. $-s^2(s^4 + 9s^3 - 4s^2)(s^2 + 4s + 2)$

Multiplying Three Mon/Polynomials (D) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-6p^3 + 9p^2 + 4p)(6p^4 - 3p^3)(9p^3 - 8p^2 - 8p) \\ & = -324p^{10} + 936p^9 - 315p^8 - 660p^7 + 120p^6 + 96p^5 \end{aligned}$$

$$\begin{aligned} 2. & -9y(-2y^3 - 9y^2 - 2y)(6y^4 - 5y^3) \\ & = 108y^8 + 396y^7 - 297y^6 - 90y^5 \end{aligned}$$

$$\begin{aligned} 3. & k^3(8k^5 - 5k^4)(9k^3 + 6k^2 - 6k) \\ & = 72k^{11} + 3k^{10} - 78k^9 + 30k^8 \end{aligned}$$

$$\begin{aligned} 4. & -2d^2(-9d^4 - 6d^3)(4d^2 + d + 4) \\ & = 72d^8 + 66d^7 + 84d^6 + 48d^5 \end{aligned}$$

$$\begin{aligned} 5. & -s^2(s^4 + 9s^3 - 4s^2)(s^2 + 4s + 2) \\ & = -1s^8 - 13s^7 - 34s^6 - 2s^5 + 8s^4 \end{aligned}$$